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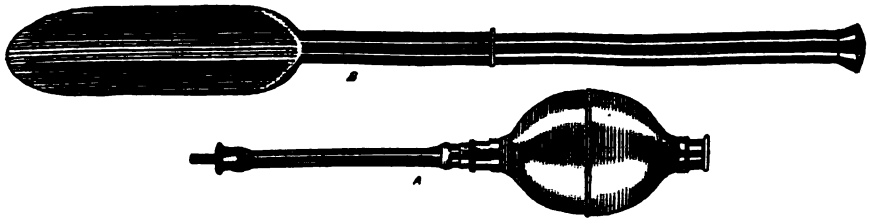

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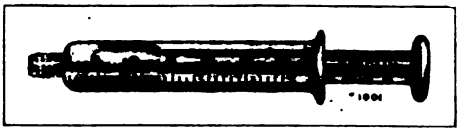

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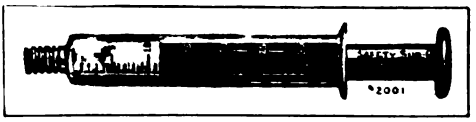

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INCORPORATING

ANNALS OF MEDICAL PRACTICE

VOL. XXIX OCTOBER, 1910 No. 10

THE DEVELOPMENT OF THE NASAL AND ORAL CAVITIES, THEIR INTERDEPENDENCE

WILLIAM E. CHENERY, M.D.

Boston, Mass.

Read before the American Academy of Dental Science, Boston, April 6, 1910.

The conformation of the face depends largely on the nose and the mouth. The bony framework is materially influenced by development in the earlier years, during which time many changes in the shape of the nasal and oral cavities take place.

The superior maxillae, the palatal, the ethmoid, the incisive or intermaxillary, together with the mandible, are the most important bone-factors in the construction of these cavities. The development of the hard palate is especially important, for it forms the roof of the mouth as well as the floor of the nose, and structural changes in one cavity are likely to effect the other. A symmetry of the hard palate is usually the result of unequal growth of the bones of the face, and the form of the palate depends a great deal upon the dental arches and their occlusive development.

The head at first consists simply of a cranial cavity; the face develops later by a series of arches with clefts between them. Early in fœtal life the fore brain region bends forward, ventrally, almost at right angle to the long axis of the body, and forms the naso-frontal process. Just below this process, and from the sides, the first branchial arches develop. These grow forward and fuse in the mid-ventral line, forming the mandibular process.

From the cephalic or upper portion of this mandibular arch the maxillary processes develop. They grow from each

side toward the median line and fill in the space between the mandibular arch and the naso-frontal process.

These various structures bound a distinct depression on the ventral side of the head, which is the oral pit. This is the beginning of the oral cavity. The maxillary processes give rise to the upper jaw and most of the lip and face region. The mandibular process gives rise to the lower jaw and chin and two auditory ossicles. On each side, the groove between the maxillary process and the mandiblar process marks the angle of the mouth, while the groove between the maxillary process and the naso-frontal process is the naso-optic furrow, at the dorsal end of which the eye develops.

The beginning or anlage of the organ of smell is apparent in the human embryo at about the third week, one on each side of the naso-frontal process. They are called the olfactory placodes. At four weeks they become depressed below the surface, thus commencing the nasal pits. These depressions or pits appear on the ventral border of the naso-frontal process, near the median line, and become the nostrils or the external openings of the nasal passages. The part between the two pits called the medial nasal process gives rise to the nasal septum and the middle portion of the upper lip. The lateral side of each nasal pit forms the lateral nasal wall and wing of the nose. With development the nasal pits grow deeper into the mesoderm and become sacs or channels which lie above the oral cavity. Later these sacs at their posterior portion rupture into the mouth, forming the primitive choanae or posterior nasal openings. These sacs correspond to the superior meatuses of the olfactory portion of the nose. In front of these openings, the nasal passages or nasal sacs are separated from the mouth cavity by tissue called the primative palate.

From the medial side of each maxillary process a plate-like structure grows across the primative oral cavity toward the median line. These are the palatine processes, which meet and fuse with the lower part of the septum. By this means we have a distinct shutting off of the nasal and oral cavities, and the palatine processes form the hard palate, which is the dividing line of the nasal and oral cavities; in this way the floor of one cavity and the roof of the other is formed. A space is left at the posterior portion of the palate for the communication of the nasal chambers and

the pharynx, while at the anterior portion a triangle is left for the insinuation of the incisive bone. The palatine processes, fusing in the middle line, form about three-fourths of the hard palate. The incisive bone which completes the hard palate in front is derived from the fronto-nasal process, and not from the maxillae.

The nose itself is at first broad and flat, but becomes elevated above the surface of the face on elongation and narrowing of the bridge, and is perceptible at the end of the second month. The nostrils are at first closed by epithelium, but this disappears about the fifth month.

The bones of the face are mainly of the intra-membranous type, that is, grow from centers of ossification in the connective tissue, and always at the periphery. Bone once made grows only at its edges. In the mandibular process we have ossification showing at about the sixth week. To form the lower jaw we have only two centers of ossification, one in each mandibular process. The palatal bone develops from a single center of ossification at the side of the nasal cavity in embryos of six to seven weeks. This forms the perpendicular portion of the palatal bone, the horizontal or plate or appearing a little later as an outgrowth of the perpendicular portion. Some say the maxillae have five centers of ossification, but the more recent work of Mall claims there are only two, one giving rise to the incisive bone, the other to the rest of the maxilla. These centers appear at the end of the sixth week.

The ethmoidal bone is at first cartilage, a medial portion and two lateral masses. The lateral masses form a sort of spongy labyrinth of bone; while by a process of dissolution and ingrowth of the nasal mucosa the turbinates are formed. The middle portion of the ethmoidal cartilage, which forms the upper part of the septum, begins to ossify after birth, and then only at the upper edge. The lower portion remains cartilage until the vomer, which is an intramembranous bone, is formed. The nasal cavities increase in size in three ways: 1st, by the formation of the palate; 2nd, the development of the conchae or turbinates; and 3rd, the development of the accessory sinuses.

The tongue grows forward from its place of origin toward the entrance of the oral pit, and at first fills the whole cavity, but when the palatine processes develop it recedes, and finally lies in the floor of the oral cavity.

All the bones which go to make up the face commence to ossify by the seventh week except the vomer, which does not have any center of ossification until the sixth month.

Such, briefly, is the origin of the nasal cavities, which are the portals of the respiratory tract, and the oral cavity, which is the beginning of the alimentary tract. Once formed, they are subject to the law of growth. Hereditary influences are important, but developmental changes largely govern the final outcome. If the various structures fuse or adapt properly, and growth is normal, then we have as a rule symmetrical development. But the new formation is not rigid — it is susceptible to the many influences governing growth. If there is departure from the normal in even the slightest particular, so that symmetry is not maintained, then the law of unequal growth influences the final result. Growth always takes place in the line of least resistance; a slight error in fusion, or, an over or under local stimulation, produces tissue changes which are exaggerated with development, and slight irregularities become, if uncorrected, positive deformities. One irregularity produces another, until with adult life we have permanent deformities and functional changes detrimental to good health. The beginning is the most important period. Heredity, race, customs, and parental health account for many conditions. No two people develop the same. Before birth, irregularities in the formation of the cavities of the face are adaptive ones, that is, there is error in union at the sutures. For instance, in the formation of the hard palate there are eight sutures. At any suture changes may take place which will modify more or less the shape of the nasal and oral cavities. After birth, nutriment and the ability to assimilate, as well as individual habits, govern the growth. Early or late development, as well as lack of development and premature closure of the sutures, are also factors to be considered. However, as a rule, at birth we find the nasal cavities well formed, the septum straight and the hard palate symmetrical, and the alveolar process crowded with the two sets of tooth germs. The deciduous teeth erupt with practically perfect occlusion, and the two cavities thus far develop relatively symmetrically. Just before second dentition the jaws begin to enlarge, the whole face grows rapidly, and many changes occur. The nasal and buccal cavities as a whole increase in size. The nasal fossæ

increase in height, and the accessory cavities enlarge. Separation of the deciduous teeth is noticed. The alveolar arches spread to make room for the larger and greater number of teeth, and the alveolar process of the deciduous teeth gradually absorbs. We have a plastic stage in development when the bones of the face are easily moulded. Gradually the round baby face changes in shape. At birth the face is about one-eighth the bulk of the cranium, while in the adult it is about equal in size. The nostrils at first are round, but gradually they become oval.

To develop normal nasal and buccal cavities, it is essential at this period that the balance of forces be right and normally maintained until full development has occurred. To develop the nasal cavities normally, they must be used properly. Their greatest function is for respiration. Normal respiration is through the nose, by an automatic, rythmic, muscular action causing inspiration or expiration. It should be unimpeded, otherwise a conscious effort is necessary, which soon leads in sleep to the easy mouth breathing, which later becomes a vicious habit. It is estimated that 70 per cent of the people are mouth breathers at night. The nasal passages are not mere holes through which air is drawn into the lungs. The air is here strained of bacteria and dust, warmed to body heat and moistened to saturation. Thus prepared, the air is unirritating to the vocal cords and the delicate lung tissues, and the interchange of oxygen and carbon dioxide within the lung is favored. It then is most important that the nasal chambers be properly developed. This can only be done by having normal nasal breathing all the time, day and night. In man the nasal accessory sinuses are not as well developed as in animals, because the acute sense of smell is not needed.

Normal development of the mouth requires the mouth practically closed most of the time. Then the balance of muscular forces is maintained; the pressure of the lips, the push of the tongue, and the normal occlusive bite are necessary to develop the dental arches. Proper mastication is also a great aid. The development of the upper jaw is most important, for it is the keystone to the normal growth of the face. Any pathologic condition in the nose or nasopharynx, such as deviated septa, adenoids, and enlarged tonsils, impedes nasal breathing, makes it a conscious effort, and soon leads, if uncorrected, to more or less mouth breath-

ing, which becomes a habit, especially at night. Even if the pathologic condition is removed, the habit is often not corrected, and evil effects result. This accounts for the lack of relief after many adenoid and septum operations. The normal muscular balance is upset. The action of the facial muscles is changed, interfered with, or even obliterated. Growth is subjected to misapplied pressure. The nostrils, from lack of use, become narrow, the alae collapse, and negative atmospheric pressure produces tissue changes in the nasal and postnasal cavities. The nasal chambers do not develop as they should. There is inequality in growth between bone and cartilage in the septum, which causes septal deviations. The sinuses do not enlarge, and the superior maxillae do not develop. Continued mouth breathing during the plastic period produces muscular pressure on the sides of the face which tend to narrow the jaws and elongate the alveolar process and push the teeth forward. Because of the lack of the natural action of the orbicularis oris in closing the lips, the central incisors are pushed forward, while the vault or palate becomes high and narrow and not dome-shaped. The face becomes pinched at the angles of the nose and the nostrils narrow. At the same time we find the floor of the nose has become raised. In this way the ventilation and drainage of the nose is interfered with. With animals the facial bones continue to grow to adult life, while the brain ceases to grow at an early age. With man it seems to be the reverse; the brain case is developed at the expense of the face, while the olefactry apparatus, so important to animal life, is not so essential to man, and is therefore not so well developed.

By a comparison of the skulls of animals, savages and modern civilized man, a marked tendency to recession of the jaws is shown, and at the same time an increase in the development of the cranial cavity is evident. A diminution in the size and importance of the sinuses is also apparent.

By examination of many skulls, the frequency of deviation of the septum is shown in all races, but the evil effects are more noticeable in the narrow-nosed races.

Impingement and inequality in growth of bone and cartilage, resulting from over development of the brain case, is an important factor in causing deviated septa. We know growth is in the line of least resistance, and by the law of

unequal growth slight deformities are very much magnified with development.

We need health more than brain. The body should not be handicapped by imperfect development of the nasal and buccal cavities, for the essentials of life are here prepared for entrance into the system, and how they are prepared depends much on the development of these cavities, which we have seen are so interdependent. Physical perfection is better than mental acuity, but the mental condition largely depends on the physical. The early years are the most important for right physical development. Great care is needed at the early part of second dentition. With nose clear, the teeth properly erupting, and habitual nasal respiration and proper mastication established, we may develop the brain to advantage; not otherwise.

The public press recently announced the founding by one of our fellow citizens of an institution for the free care of the teeth of the poor of our city. This is a great benefaction, which will mean much for the health and mentality of the next generation. It is to be hoped that in this institution ample provision will be made for the co-operation of rhinologist and orthodontist to work out the many problems in the proper development of the nose and mouth.

222 Huntington Ave., Boston.

CURIOSITIES

HYSTERIA AND THE SWALLOWING OF FOREIGN BODIES

A man presenting all the symptoms of hysteria had the habit of swallowing needles. When M. Niost saw him at the hospital he discovered the patient's mania by radiography, and observed in the abdomen a great number of shadows having the form of needles. In the evacuations 192 needles were found, but there remained at least forty in the intestinal loops at the moment the radiograph was taken, so that M. Niost estimated that 250 needles had been swallowed and had circulated in the patient's digestive tract without damage. — *Berliner Klinische Wochenschrift.*

REVIEW OF TWO HUNDRED OBSTETRIC CASES IN PRIVATE PRACTICE[1]

JOHN J. MCMAHON, M.D.
Attending Obstetrician to the Misericordia Hospital.

In presenting to you this evening this paper, I do so, not with the idea of giving you anything that is very new; but I wish to present some cases that have offered special difficulty to me, with the hope that the discussion may bring out the procedure which some would have adopted under similar circumstances. Several of these cases seem of sufficient interest to warrant reporting.

In looking over my record, I find, first, that the cases which caused me the most trouble were not the primipara but women who had borne one or more children. This may possibly be due to laxity of abdominal muscles, loss of tonicity as a result of frequent pregnancies, over distension, etc. The pains in these cases forcing the child towards the sacrum instead of into the axis of the pelvic inlet.

In 27 operative cases, I find 7 primipara. This is contrary to the usual view, but impressed me very particularly.

In this series of 200 cases, dating from May, 1907, to May, 1910, all were private patients. One hundred and seventy-three (173) were delivered normally. Of the 27 operated, the following causes are recorded:

Contracted Pelvis	6
Short Cord	1
Face Presentation	1
Polypus of Cervix	1
Posterior Occipit	4
Dystocia from various causes, early rupture of Membranes, uterine inertia, etc.	14
High Forceps	8
Low Forceps	4
Breech	6

In this series two maternal deaths occurred; one sudden death of mother, cause unknown. Of this I will speak at greater length. The other, an obscure infection, which I will also speak of.

[1] Read before the Celtic Medical Society of New York, May 26, 1910.

In this series there were three infants lost; one in a twin pregnancy, one in a face, and one in a case of sudden death of mother.

CASE 2

Mrs. S., age 16 years, primipara, nativity U. S., May, 1907. I wish to make special report of this case, and will go into the history rather closely. There was nothing unusual about the labor. When called, the head was on the Perineum, pains strong, and it was unnecessary to make a vaginal examination. The patient delivered herself without any trouble; placenta and membrane came away spontaneously; there was no douche given her; no hemorrhage.

Was called to see her the following day, in the P. M., the messenger stating that she had had a chill. Found her hysterical, standing up in bed. No temperature. Found that there had been some family differences, and being unable to quiet her, gave her one-eighth (⅛) hypo. of morphine.

On the following day, the 29th, i. e., the second day after delivery, found her with a temperature of 100, pulse 100, history of a chill; ordered calomel in divided doses.

The following day, temperature 104, pulse 120, history of a chill, no odor to luchia, no pain, no tenderness; gave vaginal bichloride douche — 1 in 5000. Examination of blood negative for Malarial Plasmodium.

The following day: A. M., temperature, 100; P. M., temperature, 104. Exploration of uterus under anaesthetic was negative. Vaginal douches continued. No culture was taken from the vagina. Ung. Crede applied daily; ice bag to lower abdomen daily. There was no change in this case. Chills continued daily, temperature running up each P. M. to 104 or 105, always preceded by chill, pulse 130 to 140. Patient did not look sick.

After the fourteenth day she was sent to the Lying-in Hospital, where she lived twelve days. I was able to follow this history very carefully, and from the Pathologist, Dr. J. E. Welch, I have been able to obtain her history while under their care. They took three blood cultures all sterile. The patient continued to have daily exacerbations of temperature, with chills and tachycardia, and died without a definite diagnosis being made as to the nature of the apparent infection. The Pathologist, Dr. Welch, removed

her uterus at her home, having received permission from her family for only a partial investigation. He found absolutely nothing to account for the condition. A most careful microscopic examination failed to reveal any pathological condition about the uterus or endometrium. The uterus was small, and had involuted perfectly. His opinion and theory suggested was septic thrombi existing in the portal veins and veins extending from the pelvis, so called Pyle Phlibitis.

Recent investigations have shown that there are certain cases of this type, very severe in degree, in which no germs can be obtained from the circulating blood. The germs seemed to locked up in these thrombi.

I do not wish to take up the treatment of any conditions in this paper, but wish to call attention to the use of vaccines in these Post Partum cases, in hospital work particularly. It seems to me that in private practice it might be utilized if you have a pathologist to take the cultures.

It takes but a short time in a rapidly growing culture to make an autogenous vaccine. In positive cases the vaccine will be ready for use in forty-eight (48) hours. It is being used now, and some get well. Of course, how much benefit there is in this line of treatment it is as yet difficult to say, but it does seem that it offers some hope for the future in the treatment of these severe septic cases that in the past we have been unable to do very much for.

CASE 126 (Sudden death in labor)

Mrs. H., age 40 years, para. 12, nativity U. S., June, 1909. This woman in all her previous labor had been instrumentally delivered. I had attended her in two previous labors. In 1907 I had been called and found her suffering from headache, vomiting, and disturbance of vision, feet swollen and urine loaded with albumen. She was then in the eighth month, and I induced labor. Fortunately, she missed an eclamptic seizure, and the Post Partum was uneventful. She had a contracted pelvis to a slight degree, her measurements being: Interspinous 26, Intercistal 28, Intertrochanteric 30, External Conjugate 18. She was rather a difficult patient to diet, as she had an aversion to milk and cereals.

I saw her from time to time, and for some six months after delivery she had albumen in her urine. This gradually cleared up entirely.

She became pregnant again, and I saw her in June, 1909. She had then been in labor about two hours. Cervix dilated three fingers, soft. Membranes unruptured, pains fair, q. 5 minutes. With the knowledge I had of her previous labors and my own experience in two of them — a short, stout woman with a pendulous abdomen, contracted pelvis, and albumen, I decided that it would be dangerous to let her go on for hours, as she had never yet delivered herself. I left her for an hour, and on my return dilated her cervix manually. The head was not engaged, but I ruptured the membranes and decided to deliver her. I had everything ready, had her scrubbed up and catheterized before she got any anaesthetic. The anaesthetist was a very competent man of large experience in anaesthesia in obstetric cases. She took the anaesthetic very badly from the first, becoming cyanotic. I found an L. O. A., head not engaged, and applied forceps. The head was rather high, and I could not get proper traction. I made two attempts, and finding I could not hold the had with my forceps, decided to do a version. All this took but a few moments. I got the foot down without any trouble, and had just reached the other when the woman suddenly died. I delivered the child, a large male, which was dead. The real cause of death in this case I was not able to give. She may have died from acute cardiac dilatation due to myocarditis, shock, reflex due to pressure on the abdomen, or from vaginal manipulation, or from an embolus. She did not have two drachms of chloroform, and the whole operation occupied less than eight minutes. I still think my judgment was correct in doing this version, and feel that I would follow the same procedure again, with the exception that I would use ether rather than chloroform.

Most recent research work and observations made in cases experimentally poisoned by chloroform has shown identical lesions in the liver with those shown in eclamptics and in the toxemias of pregnancy. Microscopically they cannot be extinguished, although some observers seem to think they can see some difference; others have failed to do so. Therefore, it seems to me that this might be a plausible explanation for certain Post Partum eclamptic cases developing after chloroform had been used. It is reasonable to suppose that in cases where there is a beginning lesion in the liver from toxaemia of pregnancy, the use

of chloroform would complete the case. For this reason, in some of the large maternity hospitals ether is now being used entirely.

CASE 114 (Precipitate Delivery)

Mrs. D., age 34, para. 5, nativity U. S., April, 1909. In contradistinction to the above case requiring instrumental delivery in each labor, this case is an example of precipitate labor in each pregnancy. When she engaged me, this woman told me that she had never been able to have her physician reach her in time. I was called just as I was leaving my office to make my morning rounds, and reached her home within three minutes after receiving the call. Child and placenta born. Patient stated that as usual she had had but one pain. Her P. P. was uneventful, and she was perfectly well in every respect.

CASE 104 (Polypus with long pedicle)

Mrs. C., age 43, para. 5, nativity Ireland, March, 1909. On examination, seemed like elbow presenting, but I was able to push it back, and found that it was a Polypus with long pedicle outside the membranes. It presented with each pain. As the Polypus seemed to prevent the head coming down and engaging in cervix, I ruptured the membranes. Polypus was pushed back without any trouble, and as the woman had been in labor some time without making any progress, I delivered her with forceps, removing the Polypus, which was high up in the cervical canal, and transfixed with pedicle. The Polypus was about the size of a golf ball. Her Post Partum was uneventful.

CASE 194

Mrs. K., age 35, para. 0, nativity Ireland, April, 1910. There is nothing unusual in this case other than a year and a half ago the patient had had a Gilliam round ligament aperation for retroversion. Her labor was rather easy for a primapara, and her Post Partum was uneventful.

CASE 92 (Face Presentation)

Mrs. M., age 32, para. 2, nativity U. S., September, 1908. I saw this patient in the morning; pains irregular, labor beginning. Her measurements were normal, and she was an exceptionally strong, well-built woman. By external palpation, and also by vaginal examination, it seemed to be a simple vertix presenting with the head floating. The cervix

was not dilated. I was called seven hours later, but was detained and did not reach her for two hours. Pains were very strong and frequent; q. 2 minutes. Membranes had ruptured, and on vaginal examination found a face presenting. Was L. M. A. Her pains were so strong I thought she would deliver herself. I gave her chloroform, but was not able to alter the position. Foetal heart 140, rather faint. Telephoned for assistance, delivered her quickly with forceps, but was unable to resuscitate the child. The cord was about the neck twice. I think that if the cord had not complicated matters, she would have delivered herself. Rotation did not take place; the cord evidently prevented flexion of the head and kept it extended.

CASE 46

Mrs. M., age 20, primipara, nativity U. S., September, 1907. External measurements were normal. In labor four hours. On examination found Ant. Occiput presenting with an exostosis off the sacrum at the lower lumbar vertebra, resembling a spondylolisthesis. As this patient was in labor some hours, and as she did not seem to be making any progress, I decided to deliver her instrumentally. The head was easily reached and axis traction forceps applied. I think this was the most difficult forceps case I have ever had. After exerting a more than usual amount of traction with the axis traction forceps, I was finally able to bring the head on the perineum. I removed my forceps, and delivered her without any trouble. To my surprise, the child, a fairly large male, was not in any way disfigured. Post Partum uneventful.

It is rather unusual, but the mother of the patient told me that in the birth of this child she had had the same trouble. She had been under an anaesthetic some hours, she said, and the attending physician had been unable to deliver her with forceps, and had summoned an ambulance and had her removed to the hospital. On the way to the hospital this child was spontaneously delivered. Rather a peculiar coincidence that mother and daughter should have had the same trouble.

CASE 158 (Twin pregnancy, with death of second child)

Mrs. M., age 35, para. 4, October, 1909. Called to this case, and found the child born a few moments before my arrival. Clamped and cut cord; palpated abdomen, and felt another child. Expressed quickly, but was unable to

resuscitate this child. There had been no external hemorrhage, and it was apparently a normal infant. There was but one placenta, with a double sac. Presumably the death of the second child was due to early separation of the placenta.

There were in this series some rather interesting and novel experiences, and such as any man meets in his obstetric practice.

I think the following case is worth mentioning:

CASE 190

Mrs. S., age 43, para. 5, nativity Ireland. There was nothing unusual about the labor. The child, a male, was born with two upper incisor teeth. I did not discover them myself. My attention was drawn to them by the nurse.

CASE 86

Mrs. G., age 25, primipara, nativity U. S. I wish to draw attention to this case, because it shows that we must be on our guard at all times. The case presented nothing unusual in the labor. In attending to the child the eyes were washed only with boracic solution because the argyrol containor had been accidentally spilled. I had no reason to suspect any Gonorrhael infection on the part of either parent, but on the following day the child's eyes were somewhat inflamed and discharging. I made a smear and found the Gonococcus. I had the child removed to the hospital, and it made a good recovery. The husband told me that he had been infected nearly two years before, and had been discharged as cured. His wife did not at any time have any symptoms that she noticed.

It only proves that if we do not wish to feel criminally negligent, we must use a silver preparation for the eyes in all cases.

In conclusion, a point I would like to speak of is the use of forceps. I am of the opinion that there is much greater safety for mother and child in the liberal, judicious, and careful use of the forceps than where labor is allowed to go on until the strength of the woman is exhausted, or nearly so, lowering and diminishing her resistance, and rendering her most susceptible to infection and with greater danger to the child. On the other hand, I think the tendency exhibited by some men to apply forceps in nearly every case is to be deplored.

39 West 61st Street.

MEDICO-LEGAL NOTES

BY DR. E. S. MCKEE

Cincinnati, Ohio

MARRIAGE MASTERED BY THE STATE

Deterioration is influenced by nothing else as it affects the race so much as the marriage of the unfit. The ancients and the Asiatics in modern times in some instances settled the question by the undoing of the unfit. Our present views of the sacredness of the human life will not readily lend itself to the murder of the innocents, though they be unfit to live and procreate. It is hard to find defence for parents who, knowing that they were affected with syphilis, tuberculosis, or insanity, nevertheless married and gave birth to children handicapped with the inheritance of these serious maladies. Neglect which is common in marriage would be considered culpable in the extreme in ordinary relations of life. At present it is probable that no peoples would recognize the right of their government to absolutely control the liberties of the citizens in relation to marriage. The day of the practical application of scientific truths to legislation on marriage is probably remote. Germany has a good suggestion on this point. It is that the candidates for matrimony be forced to submit to a medical examination and the results be submitted to the other party and probably to their friends. This is purely an advisory scheme, and would not interefere with the liberty of the candidates. Did the parties go on with the ceremony, they would at least not be as blind as Love is generally accredited with being. It would be well for our people and our legislatures to consider well this subject of marriage, with a view of preventing not a little of the misery, disease and insanity which now afflicts us.

FOREIGN MEDICAL JOURNALS FLEECED

The *British Medical Journal* was recently the unfortunate defendant in a libel suit. A certain surgeon-major in the British army was the attending physician also the heir to a patient, and the patient died. The *British Medical Journal* intimated that the surgeon's actions were not hon-

est. He sued, and won his suit. The *Lancet* also not long since lost a suit for libel for calling a man a quack. A recent remarkable decision was rendered in a law court in Berlin, in an action brought against a medical journal which had criticized, unfavorably, certain compounds prepared at a chemical factory in Hamburg. The manufacturers wrote to the editor, replying to his criticism and demanding the insertion of their reply in the journal, in accordance with Article 11 of the Press Act. This being refused by the editor, on the ground that the reply contained erroneous statments, an action was brought against him, with the result that he was found guilty and was sentenced to a nominal fine of one mark. The court said, that, according to the law, that when a person felt himself prejudiced by an article published in a journal, the editor was compelled to insert any communication which such person might send in reply, and that this must be done even when the editor is persuaded that the reply contains untruths! Our foreign friends had better come to America.

LEAVING A SPONGE OR PAD IN THE WOUND

The number of these suits seems to be on the increase and the varieties of defence are also augmenting. In Switzerland recently two eminent surgeons testified that a sponge filled with blood resembled so closely the tissues of the parts that the most skillful surgeon might overlook the sponge and leave it in the wound. On the strength of this testimony, the verdict was in favor of the surgeon. In a Western State the defence was that the operation ceased when the surgeon ceased to use the knife, and therefore the complaint that there was gross negligence was not sustained, as it was admitted on the part of the prosecution that the operation was skillfully performed. The court, however, held the view that the operation commenced with the first incision and closed with the finished dressing. In a case in a Southern State it was held that the enormous amount of detail in modern operation made it quite impossible for a surgeon to look after every sponge and pad. The court sustained the view, and the verdict was in favor of the surgeon. In still another case the defence was that the sponges were placed in the care of the nurse, and if any one was left in the wound, she was guilty of negligence, and not the

surgeon. The court held that the nurse was acting under and by the directions of the surgeon, and therefore he was responsible for acts performed by her during the operation.

INSANITY CAUSE FOR DIVORCE

A recent decision in Paris is of interest. A woman who had been treated for insanity was afterwards married during a lucid interval. A few weeks after marrige her condition became such that she had to be sent to an insane asylum, where the medical attendants declared her incurably insane. The court held that as the wife's mental aberration had been concealed from the husband, and that had he known of it the marriage would not have taken place, that he had been deceived and that a serious wrong had been done him. A divorce was granted on these grounds. Up to this decision, insanity has never been recognized in France as a cause for divorce, possibly for fear that all married people would say that their partners were mad.

UNGRATEFUL THIEF

A man brought his baby to the free ward of the Royal Free Hospital, London. The resident physician found tne child almost moribund, and she hastened to attend to it, leaving two purses containing sixteen shillings on the table, which the father immediately stole. The only excuse he could give when brought into court was that he did not know that the baby was so bad. The magistrate properly described the action when he termed it "a disgusting exhibition of human ingratitude." The thief got a month in prison. Of course, if the man had not been *in extremis* financally, as his baby was physically, he might not have given way to temptation in such an ungrateful manner. There are others who might say that it was highly improper for a house surgeon to make such a vulgar display of wealth before the poor as to leave *two* pocket books containing so many shillings laying about in this careless manner. It is safe to say that no house surgeon but a female one would leave two purses laying about in that way, nor have saved up so much money. As a matter of prophylaxis we would suggest that women have pockets for their purses, and keep them there. Stockings are too inaccessible. Another is to prevent that desperate degree of destitution which is so

prevalent among the poor patients of London hospitals. The propriety of women acting as house surgeons we will leave to discussion by braver men.

QUACKERY IN PARIS

A cosmopolitan person whose flaring advertisements occupied prominent places in the newspapers of Paris, and who had been successively driven from America, England, Russia, and Germany, who thought that he had at last found a safe asylum in France, was recently brought before the courts of Paris. He was condemned, but his offence was condoned by a very light sentence. France is distinguished from the rest of the enlightened world in the spirit with which she regards this sort of a thing. Though this man was driven out of the other countries as an impostor, he was only convicted in France of practising an art he had not learned, and was acquitted of the charge of swindling. The judges seemed to wish to convey the fact that they found it impossible to determine exactly what part of medicine is a swindle and what part is not. Considering the immense part which suggestion plays in medicine and the intrinsic insignificance of some of our therapeutic measures, any little trick may, when helped by the unconscious cooperation of the patient himself, be the means through which an effective curative influence is exerted. In any case, seemed to be the judgment of the judges, it was better to recognize the reality of this mysterious action, even when it is used by quacks, than to be induced to deprive the regularly qualified doctors of the possibility of assistance from this source. This solicitude for the welfare of the medical profession on the part of the legal profession is a little ironical, and should be viewed askance. We should have the unqualified and incontestible right to demand that unqualified practitioners should be found guilty of swindling, and courts of justice in their most humorous moods must not refuse.

THERAPEUTICS

TREATMENT OF CIRRHOSIS OF THE LIVER BY THE INJECTION OF EXTRAVASATED LIQUID INTO THE DEPTHS OF THE TISSUES

It has already been pointed out in these columns that the idea had been entertained of curing pleurisy, that is the ecusion of liquid in the pleura by the injection into the tissues of the patient of a small quantity of this liquid extracted by a puncture of the pleural cavity. The results attained, at times favorable, have not received a satisfactory explanation.

It was thought that the liquid thus injected acted more particularly when the pleurisy is tuberculous. That, however, is not the case. The injection is as efficacious in pleurisy in typhoid patients, and in the intra-thoracic effusions consecutive upon Bright's disease and grippe. Without formulating any theory, it is permissible to think that the injection of a product of pleurisy into the circulatory current produces anti-pleurisy. This is a very simple explanation. In any case the formation of this anti-pleurisy in the organism may be said to determine a rapid cure of pleurisy.

It is owing to some such theory that the idea arose to treat in a similar fashion the abdominal effusion which accompanies atrophy of the liver, or cirrhosis. It is known that this disease follows most frequently upon the abuse of alcohol, and in particular of wine, and is constituted by the shrinking of the liver, by the blocking of its cells, by the greater difficulty caused to the circulation of the blood, which is obliged to free itself in the liver of poisons furnished by the food. Every one has seen sufferers with earthy tint and very large abdomen, who periodically, at times every twenty or thirty days, are obliged to be punctured in order to give passage each time to five, ten, and even fifteen litres of liquid.

MM. Audibert and Monges, who treat this question in the *Marseille Médical,* indicate that they have applied this method in the case of patients who entered the hospital in January, 1909, and on whom punctures were made regularly every fortnight until the end of August. Hypodermic injections of the ascitic liquid were begun on September 8. Without withdrawing the needle entirely after the puncture was made, the liquid was reinjected in a dose of from two

to four cubic centimetres in the subcutaneous cellular tissue. This little operation never caused pain or accident or local reaction. From September 8 to November 15, that is to say, for more than two months and a half, these physicians made twelve injections of ascitic liquid on the patients, one about every six days.

The effect of the first injection was to increase in a considerable proportion the quantity of urine discharged. This quantity passed from 600 cubic centigrammes to 1,700, and exceeded 2,000 cubic centigrammes after the second injection. This exaggerated production of urine coincided with an improvement in the general condition.

The last abdominal puncture of about 15 litres was made on September 8. On November 15 no evacuatory puncture was made. This result is the more remarkable since before the series of injections it had been necessary to puncture the patient's abdomen every fifteen days for six months. These results were obtained with injections of from 3 to 5 cubic centimetres, the patient being on a milk diet.

The return to ordinary alimentation was followed by an increase of ascites, but it was sufficient to increase the quantity of liquid injected to 7 cubic centimetres to bring about again the diminution in the abdomen.

From this observation it may be seen that the injection of ascitic liquid in the tissues is absolutely painless and causes no local reaction. It provokes an abundant secretion of urine, which is continued when the patient is given food. There follows a manifest decrease in the effusion and a notable amelioration in the general condition.

Definite conclusions cannot be drawn from a unique observation, but this fact when placed beside the fact that pleurisy is cured in the same manner is very suggestive.

DOSAGE FOR CHILDREN

L. C. Ager, in *Pediatrics*, states that the dosage of drugs for children cannot be calculated by any comparison of body weights. Almost all drugs are relatively better borne by children than by adults; this is probably due to more rapid elimination. On the other hand, there are some drugs that must be used with great caution with children. Probably the two extremes are atropin and arsenic. No drug in any dose should be administered without a definite idea as to the result that it will produce and then the amount used should be

sufficient to produce that result. Almost as much harm has been done by thoughtless and injudicious use of vehicles as by the wrong use of active drugs. A teaspoonful of the various syrups, frequently administered, would upset the digestion of a healthy infant. Not infrequently also children receive an excessive amount of alcohol by the use of the elixirs of some of the proprietary foods.

CASE OF URETHRAL CALCULUS

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I report the following very remarkable case:

Mr. W., about 23 years of age, presented himself at my office on September 28th. He had come from about 50 miles up the river (Kennebec), where he had been working in a saw-mill. He complained of severe pain in the scrotum and soreness, also of the presence of a mass which had been growing in size for some time.

On examination I found the right testicle had been removed. This, he said, had been done during his childhood, and he knew nothing of the cause for its enucleation. I found he had worn a urinal for a long time, his water continually dribbling into the same.

The mass appeared somewhat like a hernia, but lay too far back, and was much too dense. I diagnosed an abscess, and advised immediate operation. After the patient had been placed under ether I passed a needle into the mass and drew off purulent fluid. I then opened down on to the abscess and enlarged the opening, so that an exploring finger could be passed into the cavity. I should say that the incision was made longitudinally through the right empty side of the scrotum.

On examination I found a very hard mass in the urethra, and diagnosed a calculus therein. Making a longitudinal incision therein, I removed the stone, which was about one and one-half inches in length, three-fourths of an inch in lateral diameter, and of ovoid shape. It weighed six drachms. I passed a metal catheter through the urethra, past the incised portion of th same, and into th bladder, tying the instrument in situ. On irrigating the bladder, I found its capacity to be about one-half ounce.

I consider this to be as unique a surgical case as most operators come upon in a life time. Therefore I report it.

LONDON'S EYESIGHT

Practically one-third of the Londoners who present themselves for enlistment in the Territorial Force, according to Colonel H. S. Caldicott, have to be rejected owing to some physical defect — generally one of vision. The possibility of vision defects being on the increase in London was discussed yesterday by a number of well-known oculists, who drew their conclusions from their private work as well as from their experiences in some of the great London hospitals. "Whether there is an actual increase in the number with defective vision it is impossible to state with accuracy," said one doctor, "but there is no doubt that one treats many more eye cases in general hospitals than formerly. Our methods of examination are much stricter, the result being that many people appear in the list of defectives who would have been passed as normal twenty years ago. Speaking from personal experience of twenty years' work in the eye department of a large hospital in London, I do not believe that the eyesight of the average hospital patient is getting worse." Another opthalmic surgeon was less optimistic. "The general physique of the subject and the stock from which he springs are of great importance in determining the quality of the eyesight. Professor Karl Pearson's 'Inheritance of Vision,' published last March, showed that bad sight very frequently comes from bad stock, and is handed down from parents to children. Hence the question of a possible deterioration in the nation's sight appears to me to depend not on the amount of schooling the children get, overcrowding, city employment versus country employment, but to hinge largely on the much more important and far-reaching question, "Is British physique and stock improving or degenerating?'"

WHEN SEDATIVES ARE TONIC

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The indurated view of very many physicians is that sedatives are debilitating agents, and their administration is always attended by a reduction of the patient's strength and power of resisting the noxious influences of disease Hence, I have heard men in good standing assert that they made use of no drugs except tonics, believing that disease

is essentially weakening, and that when a person is ailing he necessarily requires strengthening treatment.

While this is true, it is only in a general sense, and to comprehend the question we must go much more deeply into its merits. Disease is always complex, never so simple and primary as the above view would indicate.

In the *Clinical Journal* for April 2, 1909 (quoted by *New England Medical Monthly*, June, 1910), Bonney calls attention to an illustration of this principle: Women attending the gynecologic clinics nearly always complain of "weakness." Men with similar complaints respond favorably to strychnine, acid, and a bitter stomachic. The result of treatment along this line in gynecologic cases is invariably disappointing, the patient being no better or distinctly worse. But when the bromides are substituted, the patient invariably declares that she feels herself much stronger. He attributes the sense of weakness here to hyperirritability of the nervous system, the steadying of which by the bromides immediately produces a sense of "feeling stronger."

Many times I have made the same observation, but in most cases the relief followed much smaller doses of bromide than are usually employed. These patients are frequently drenched with these debilitating agents until they are veritable drug fiends, their nervous system never being allowed to react from the sedation. Five grains of sodium bromide, repeated hourly, for three doses but no more, and not that if relief comes with two doses, or one, give finer results than excessive bromism.

The "deranged physiology" here presents the clinical picture of erethism. I purposely employ this term instead of "pathology," because I wish to emphasize the need of the studying such cases from the standpoint of deranged vital functions rather than from the hopeless one of the autopsy findings.

In this hyperesthetic condition we denominate erethism, morbid impressibility is such that comparatively slight irritations will induce a discharge of nerve force, and the patient is never able to accumulate a store. She is always exhausted, always prostrated, always ready to go off into a paroxysm of excitement at the slightest excuse. There is a leakage of nerve force somewhere along the line.

Here we must do justice to the work of Gould, who has stated in his graphic manner, with the emphasis that

attracts attention and carries conviction, the immediate part played in such cases by eye-strain. The human eye is compelled to do thousands of times more duty than when man was in a state of nature, and the effects of any defect in the ocular apparatus are correspondingly multiplied. But the eye is only one part of the body, and is influenced by the condition of every other part; while defects of other apparatus may induce the nerve-leakage as well as the eye. I have "cured" erethism by removing foreign bodies from the ear, sebaceous cysts from the scalp, hopelessly diseased tonsils, nasopharyngeal adenoids, tight prepuces in either sex, dilating spastic anal sphincters, carious teeth, corns, and by many other little attentions to blemishes that could by no means be traced as the direct causes of the ailments.

There is another matter too vital to be ignored — the sexual sphere fills with woman a very much larger share of her life than with men, —or that men are usually aware of. When Byron said:

> "Man's love is of man's life a thing apart;
> 'Tis woman's whole existence:"

he gave utterance to a truth whose physiologic significance he probably did not begin to appreciate. Woman's instincts, her physical and moral nature, center in maternity. Perfect contentment is displayed by the mother whose babe nurses at her breast, while she feels absolutely secure in the care and protection of her chosen mate. Here we see a Trinity indeed holy to every right-minded man. But every mating is not thus perfect, and we find, if we inquire closely, that some women are irritated and drained by the too frequent calls of their mates or by the unfortunate results of mismating, which leaves a bodily function excited to activity and unrelieved. In such instances the effects of moderate bromide medication are gratifying, and the saving of vital expenditure allows the accumulation of nerve forces.

Unfortunately our tendency to specialize is such that those of us who begin to realize the importance of this matter are quite as apt as the ophthalmologists to see nothing else. Very probably we who have so strenuously urged the importance of fecal toxemia as reacting on local maladies, may be inclined to fall into the same error. We surely have no reason to arrogate the infallibility to ourselves, but try to be content in believing that if we must be faddish, there is no other fad as yet advanced that is as well worth our devotion.

THE INADEQUACY OF WRITTEN EXAMINATIONS

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A licensing board of examiners, or as designated in some States, of registration in medicine, has been established, and now exists, in each State. The function of these boards is to regulate the practice of medicine in the interests of public health, not in any degree in the special interests of the practitioner of medicine. This fact, which is the undrelying princple on which a State can constitutionally enact laws for such a purpose, is frequently lost sight of, and consequently confusion of opinion and argument results.

In thus attempting to regulate the practice of medicine, each State has made it the duty of its licensing commission to test by some sort of an examination the fitness of persons to engage in practice. The methods of conducting or applying examination tests differ somewhat in different States. In this respect State commissions are not a law, so to speak, unto themselves. State legislatures have handicapped them by unnecessary and unwise statutory provisions. Instead of giving them a free hand under the general direction that they must satisfy themselves as to an applicant's fitness, they have prescribed methods and set limitations of such a nature as to tie the hands of commissions by requiring them to conduct their work in a certain manner, on lines definitely drawn. For instance, in New Hampshire, also in New York, New Jersey, Idaho, and in a considerable number of other States, the law is, not that the examining commission in its own chosen way must satisfy itself of an applicant's fitness, but that the examination must be the same for all applicants, and must be wholly in writing.

This statement brings us at once to the point which I wish briefly to present for your consideration — that an examination conducted solely in writing is not a satisfactory method, or procedure, as a test of an applicant's fitness to enter the medical profession. Unquestionably, an examination wholly in writing is the simplest, can be conducted with less cost in time and money, and in mental effort, than any modification of it, or departure from it, that can be devised.

Fifteen years ago a written examination, properly conducted, was a better test of fitness than at the present time.

Then the facilities for cramming were less numerous. There were fewer quiz books and quiz masters, fewer compends; and State board questions, much the same necessarily throughout the country, had not been compiled and given to the public by publication in medical journal, and in bound volumes. At the present time questions are not only published, but correct answers to them are also published in numerous journals and books, the better to serve the wants of the diligent crammer. Then again there are medical schools competing with each other, not in training their students for the high duties of the profession, but in fitting them to meet successfully State requirements.

So the situation to-day, as viewed by a medical examiner with open eyes, is alarming. What shall the remedy be?

A government commission, clothed with authority to supervise, regulate, and to sit in judgment upon the curricula, upon the methods and amount of instruction given in the medical schools in this country, is indeed, the desideratum of the hour. A council of medical education and registration, such as has existed in the United Kingdom since 1858, would surely be a great improvement on our examining board system. The British is probably the best system of supervision of medical education in the world.

But the Medical Council of Great Britain is not an examining body. It is not analogous in any one particular to our State boards. It does not examine graduates of the British schools. In them the qualifying examination for graduation and practice is one and the same, and is conducted by the medical school. Graduates, by virtue of their graduation, are registered, not examined, by the Council, and registration is their authority to practice under government recognition. Unregistered persons can practice medicine in the United Kingdom, but not as entitled physicians. They cannot bring suits in the civil courts for the collection of fees for services. The purpose of the British Medical Act, as stated in its preamble, is " to enable persons requiring medical aid to distinguish qualified from unqualified practitioners." The English system goes no further.

If we could combine the British procedure of supervising authoritatively the educational work and processes in the medical school with our system of legally prohibiting unlicensed practice, vastly higher standards could be maintained in our medical institutions, and the public would be

far better guarded and protected from the harm resulting from the practice of the incompetent and unscrupulous.

In Massachusetts during the past year, to overcome in part, at least, the inadequacy of a written examination, practical tests have been made a feature of our work. We are pleased with out departure from our former routine. We find it perfectly feasible, in several of the subjects examined in, to introduce the practical element — in surgery, in anatomy and histology, in pathology and bacteriology, in toxicology, and in clinical diagnosis. In this way the examiner is brought into personal relations with the applicant, thus affording an opportunity for oral discussion, and for observing his skill and technique of operation. A few minutes only with a member of a class are sufficient to size up his qualifications, and not only that, but to determine very accurately as to the character of the training he has received, and of the educational methods in the school which graduated him. I know of no more definite way to grade or classify correctly the medical schools in this country than by a practical examination of their graduates.

It is to be regretted that there are many State Boards which cannot now follow such lines of practical work. They are handicapped, as I have already said, by statutory requirements. The New York law says, " the examinations shall be exclusively in writing;" New Hampshire and Idaho likewise. New Jersey says " all examination shall be written;" Pennsylvania likewise. On the other hand, Ohio says, " All examinations shall be conducted under the rules formulated by the board." In Massachusetts, and I think in Michigan, the law is practically the same.

So we find that uniformity of examination methods is not possible in the several States. The remedy lies in the slow process of new legislation, more uniform and better adapted to present conditions and requirements.

(Proceedings of the National Confederation of State Medical Examining and Licensing Boards, 19th Annual Convention.)

PULMONARY HEMORRHAGE IN THE TUBERCULOUS AT HIGH ALTITUDE (6,200 FEET); REPORT OF 56 DEATHS; FREQUENCY OF ASSOCIATED HEART DISEASE

F. C. SMITH

Passed Assistant Surgeon, United States Public Health and Marine-Hospital Service.

A review of the clinical records of the Marine Hospital Sanatorium at Fort Stanton, N. Mex., shows that since it was opened, in 1899, 56 deaths from pulmonary hemorrhage have occurred there. All of the subjects were under treatment for tuberculosis of the lungs, and together they constitute a little more than 10 per cent of the total mortality from that disease. The histories of all cases, where the hemorrhage was not immediately fatal, were passed upon by three medical officers before being admitted to this series, the facts in each case being considered sufficient to place hemorrhage in a casual relation to death. Instances where hemorrhage may have sown a new crop of tubercles throughout the lung, death occurring several weeks later from a rapid extension of disease, have not been included, nor has death been ascribed to hemorrhage in any instance simply because it was a sequence of that accident. Two fatalities from ruptured aortic aneurism occurring in tuberculous patients are also omitted.

Age. All patients at Fort Stanton are adult males, the great majority between the ages of 20 and 50 years.

Color. The negro seems to be slightly less liable to hemorrhage than the white. A previous study of our hemorrhagic cases [1] seemed to show that a chronic type of pulmonary tuberculosis is more common among hemorrhagic cases than among non-hemorrhagics. Those in whom the disease runs an acute course, as the very young and the negro, are less apt to have hemorrhages, because, instead of living for many years with pulmonary vessels exposed in cavities to tuberculous, pyogenic, atheromatous, or other destructive process, they die of their disease quickly, with opportunity for hemorrhage in inverse proportion to the rapidity of the tuberculous invasion. About 35 per cent

[1] Hemoptysis in pulmonary tuberculosis. — Transactions of the fourth annual meeting of the National Association for the Study and Prevention of Tuberculosis.

of our colored patients have hemoptysis, either before or after beginning sanatorium life, against 38 per cent of the white men. The total mortality has been 50 per cent among the colored and 28 per cent among the white. Five colored patients have died from pulmonary hemorrhage, a number representing 6 per cent of their mortality. Fifty-one whites died from hemorrhage, 11 per cent of their total mortality.

The earliest death from hemorrhage was one immediately fatal, occurring on the seventh day after arrival, in a patient with a history of pulmonary hemorrhage previous to admission. Of the 9 dying within a month after arrival, 7 had a previous history of bleeding, and 2 died of their first hemorrhage. Five of these cases were immediately fatal, and 4 were not. Of the 12 who had been here over two years, 4 died of their first hemorrhage. Eight of these deaths were immediate and 4 succumbed to bronchopneumonia.

Of the 19 dying of their first hemorrhage, 14 succumbed immediately, 7 had been at Fort Stanton over one year, and 3 more than three and a half years.

Stage of disease. All of the 56 cases were far advanced, according to the nomenclature adopted by the National Association. Forty-three were so classified on admission, and the remaining 13 came as moderately advanced cases, but had progressed to the third stage before death. Excavation, in most cases extensive, was found in each of the 43 autopsied, and cavities had been demonstrated clinically in all the others.

Condition at time of fatal hemorrhage. In 46 instances the disease was known to be progressing, while 10 patients were supposed to be arrested cases. Nine of the latter were autopsied, and while in 6 of these only slight evidence of active tuberculosis was found, and while there was ample evidence of healing, none of them could properly be called arrested in the sense that all activity had ceased in all parts of the lungs. Each had a few small, thick-walled cavities, considerable scar tissue, and abundant healthy lung remaining, but careful search revealed in all either a few scattered tubercles of recent deposit or some minute area of softening. But the fact that 6 of such cases succumbed to hemorrhage would indicate that that event is sometimes an accident, irremediable, unavoidable, and not to be foretold.

Cardiac disease. The condition of the heart was decribed forty-two times in 43 autopsies. Valvular disease of the heart, with incompetency of the mitral valve, was found four times, once associated with aortic stenosis and once with an acute pericarditis and effusion; all four were immediately fatal cases. Aortic incompetency in a small heart showing brown atrophy and with adhesions of the pericardial sack to the right pleura was found once; fatty degeneration of the myocardium once; dilatation of the right auricle in a heart weighing 545 G. once — all in cases dying immediately. Disease of the mitral valves not resulting in incompetency occurred five times, the hearts weighing 385 G., 450 G., 385 G., 250 G., and 320 G., respectively; disease of the aortic valve not resulting in incompetency was found once in a heart of 380 G. All these were also cases where the hemorrhage proved immediately fatal.

Tricuspid incompetency occurred once and dilatation of the right ventricle twice (all in different cases), one of the last in connection with excrescences on the mitral valve, and in all cases dying of broncho-pneumonia. Another case with greatly enlarged heart (735 G.) and extensive pericardial adhesions also succumbed to this sequel to hemorrhage.

Thus 17 of 42 autopsied are known to have had some serious cardiac disease; 13 of these died suddenly. The preponderance of left-sided cardiac lesions in the cases immediately fatal is noticeable.

Comparative frequency of hemoptysis at high and low altitudes. It has been scientifically established that blood pressure is lowered with increase of altitude, and while elevated places have never been considered unsuitable for the treatment of cases of pulmonary tuberculosis showing hemorrhagic tendencies, a note as to the comparative frequency of hemorrhages from the lung at this sanatorium may properly be added here. Our altitude is 6,231 feet; most patients arrive from places at or near sea level.

Of the first 453 hemorrhagic cases admitted, 248 had hemorrhages before but not after admission; 106 had hemorrhages both before and after admission; 99 had hemorrhages after but not before admission.

Such data are obviously not of much value without knowing how long the patients were under observation.

Of 248 having hemorrhages before but not after admission, 31 remained over two years, 46 remained from one

to two years, 45 remained from six months to one year, 61 remained from three to six months, and 65 remained less than three months.

This still is not conclusive, because the duration of the disease before entering was probably greater in most cases than the time patients remained under treatment here, with consequent greater opportunity for hemorrhage before than after admission. But taking into account the well-known frequency of recurrence in pulmonary hemorrhage, the belief that elevated regions are favorable for the treatment of ordinary hemorrhagic cases of tuberculosis of the lungs would seem fairly well supported.

Summary

1. Hemorrhage from the lungs is responsible for about 10 per cent of the total mortality from pulmonary tuberculosis at this sanatorium.

2. Syphilis and chronic alcoholism increase the liability to fatal hemorrhage.

3. Small pulmonary hemorrhages are rarely suddenly fatal, but may cause a dangerous insufflation pneumonia.

4. Recurrence of hemorrhage rarely or never occurs after broncho-pneumonia develops.

5. No age period of adult manhood seems especially predisposed to fatal pulmonary hemorrhage.

6. Exciting cause of fatal hemorrhage was noticeably absent; the majority of subjects were in bed at the time, and a large number presumably asleep.

7. Acute types of pulmonary tuberculosis are least liable to this accident; negroes showed a lower mortality from hemorrhage than whites.

8. Hemorrhage has not been common immediately after arrival from sea level; the increased mortality from hemorrhage after prolonged residence at high altitude may properly be ascribed to the chronic type of disease in these individuals.

9. Disease of the heart or embarrassed circulation from any cause predispose to a fatal issue when pulmonary hemorrhage occurs.

10. Pulmonary hemorrhage is not more frequent at high altitude than at sea level, but the results are perhaps more often serious, especially in those with impaired circulation.

Abstract from Public Health Reports, No. 40.

THE VALUE OF NITROGLYCERIN AS A PREVENTIVE OF HEMOPTYSIS IN PULMONARY TUBERCULOSIS

In the *Canadian Practitioner*, Minns reaches the following conclusions as to this plan of treatment:

1. While there may be other elements in the production of hemoptysis, it is evident that blood-pressure in the pulmonary area plays an important part.

2. Estimation of blood-pressure in the pulmonary area cannot ordinarily be made experimentally.

3. Clinical observation, however, goes to show that there is a relation between pulmonary pressure and systematic pressure.

4. Such preparations as nitroglycerin are capable of reducing blood-pressure in the circulatory system; and by their use it would seem to be possible to keep the pressure in the pulmonary area in any particular case reasonably below the danger point.

5. The drug should be administered in small doses, and may be continued over long periods.

6. The results reported here have been the result of the study of over six hundred cases of pulmonary tuberculosis in residence, and the treatment as carried out for nearly two years has given time to prove the efficiency of the same.

7. It would seem to be indicated that this drug should be administered in the morning some time before the hour of rising, and subsequently at, say, 7.30 A. M., 11.30 A. M., 4.30 P. M., and 7.30 P. M., in order to have the result produced before the blood-pressure is raised by the exertion incident to toilet, meals, etc.

8. When 1-100 grain of nitroglycerin will reduce the blood-pressure 15 millimeters in less than ten minutes, the same dose, given four times a day, for, say, two weeks, should be sufficient to maintain a lower pressure than the individual's normal.

While the administration of nitroglycerin has not proved to be an absolute preventive, still, in the large majority of cases, with a previous history of hemoptysis, or the occurrence of the same, it has been clearly proved to be efficacious in reducing the frequency of the complication, and in lessening the amount of blood lost when it does occur.

TREATMENT BY CONTINUOUS ANTISEPTIC INHALATIONS OF INCIPIENT PULMONARY TUBERCULOSIS

Lees contributes to the Proceedings of the Royal Medical Society for December, 1909, a paper on this topic.

During the last four years the author has treated all his cases of early pulmonary tuberculosis by the inhalations of antiseptics, and the results have been so remarkable that he desires to bring them before the profession, in the hope that the method may be generally used. The inhaler employed has been the simple oro-nasal cage of perforated zinc advocated by Dr. Burney Yeo. It is worn over the nose and mouth, and is kept in place by elastic bands behind the ears; it contains a piece of sponge or felt on which the solution is dropped. The only precaution necessary is to take care that the edges of the inhaler, which rests on skin, are not wetted, lest the skin should be stained or made sore. The antiseptic solution whch the author has employed has been of this composition:

℞ Acidi carbolici, 3ij;
Creosoti, 3ij;
Tinct. iodini, 3j;
Spt. aetheris, 3j;
Spt. chloroformi, 3ij.

Of this solution six to eight drops are poured on the felt of the inhaler every hour during the day time, and two or three times during the night if the patient is awake.

The odor of the solution is not unpleasant, and patients appear to derive great benefit from its use. Cough is rapidly relieved without any sedative or expectorant medicines, and sputum, if any, is more easily expectorated and is lessened in quantity.

TREATMENT OF BURNS

Dr. H. L. Fancher of Chattanooga, Tenn., in *Journal of American Medical Association,* gives the following solutions as useful in the treatment of burns:

Picric acid	4	3i
Alcohol	64	℥ii
Water	q.s. 768	Ojss

PERICARDIAL EFFUSION

West, in the *Lancet* of February 26, asserts that paracentesis is rarely necessary, for serous effusions in the course of rheumatic fever usually disappear spontaneously, and often produce no urgent symptoms. Absorption, when it once begins, is rapid, more rapid than in the pleura. The effusion is, no doubt, removed in the same way, by the lymphatic pump, worked by the respiratory movements on the one side and by the cardiac movements on the other. Though the author has frequently tapped the pericardium, and states that he is always glad to have the opportunity, he confesses that the necessity rarely arises. Even a large effusion disappears spontaneously, and recovery is complete, so that there are no signs even of adhesion of the pericardium.

Besides the acute effusions, which are generally the result of rheumatic fever, there is a group of chronic effusions, the origin of which is not so clear. Some are associated with new growth in the mediastinum, or near it; others, perhaps, with tubercle, though this is rare; and some without obvious cause. In one of West's cases there was a large area of pericardial and mediastinal dulness, which was thought to be due to a new growth, because of the loudness of the pericardial friction, and was on that account not tapped, unfortunately, as it happened, because the necropsy showed nothing but pericardial effusion. One of the most remarkable cases of the kind was recorded by West some years ago, in which paracentesis was frequently performed for what was thought to be probably a mediastinal cyst. The patient lived four and a half years after the paracentesis and was tapped many times. On his death no mediastinal cyst was found, but only an enormously distended and thickened pericardium.

In purulent pericarditis the effusions are, as a rule, much smaller. When large they yield the same general signs as serous effusions do, and the purulent nature of the effusion, even if suspected, can only be proved by puncture. The smaller effusions are much more difficult to diagnose, as the pus is often in pockets or pouches, while the rest of the pericardium is adherent. Thus very irregular areas of cardiac dulness are sometimes presented. In manifest pyemia the diagnosis of purulent pericarditis may be made on gen-

eral principles, the heart showing something wrong, which is not due to valvular disease.

One very interesting and important group of cases is that in which the purulent pericarditis accompanies or follows pneumonia. It frequently causes no suggestive symptoms and may be altogether latent. During the acute stage the pericarditis may be very acute, and the pericardium be found post mortem covered with flaky yellow pus, but there is little fluid as a rule, and that for the most part seropurulent. It is after the pneumonia is well over that the most remarkable cases occur. The author has more than once during what appeared to be a normal and satisfactory convalescence had the patient suddenly die without apparent reason, and post mortem the pericardium has been found full of pus, often with a double empyema. As the physical signs must have been obvious enough, the diagnosis could hardly have been missed if careful examination had been made, so that he now makes it an inevitable rule, whether there seems reason or not, to examine a convalescent from pneumonia every two or three days to avoid being caught napping, as he admits he has been once or twice.

An empyema following pneumonia is generally associated with an irregular temperature curve, but not always, and he believes that purulent pericarditis is still more often latent and febrile. It is specially unfortunate when these cases are overlooked, because just as pneumococcal empyema is of favorable prognosis, so he believes is pneumococcal pericarditis when recognized and incised.

Dr. West says if pus points over the pericardium it is an empyema pointing in a peculiar place, or an abscess connected with the chest wall, but not a purulent pericarditis.

BACTERIAL VACCINES

E. C. L. Miller, M.D., in the *Therapeutic Gazette* for June 15, says in going over the field of bacterial vaccines several considerations press themselves upon our attention:

1. Specific therapy presupposes specific diagnosis. The physician must know what germ is producing the trouble before he can know what vaccine to administer. A patient with a streptococcic pyemia will not be greatly benefited by the administration of a pneumococcus vaccine, nor will an infection with the bacillus coli be cleared up by adminis-

tering a staphylococcus vaccine. It means that the physician must become something of a bacteriologist before he can successfully administer these vaccines. He must at least be able to recognize the different germs, and if he expects to make up personal vaccines he should be much more.

2. In regard to stock vaccines versus personal vaccines, the following general statement is about correct: Stock vaccines must be used in the case of tuberculosis and gonorrhea because of the technical difficulties encountered in trying to grow the germs for personal vaccines. Stock vaccines of the staphylococci will in most cases give about as good results as personal vaccines and are largely used, while for all other germs personal vaccines are superior to stock vaccines. With this latter class of cases many physicians begin treatment with a stock vaccine, and later, if the case does not progress satisfactorily, they change to a personal vaccine, which by that time can have been gotten ready.

3. In the regulation of the dosage the aim is to produce the greatest amount of positive phase consistent with the least amount of negative phase, or, from the clinical standpoint, the practice is to give as large a dose as you can and not produce a reaction. A very slight reaction does no harm, but a strong reaction is to be avoided. In any particular case the best practice is to give a dose that is certainly safe and then increase it up to the production of a slight reaction. There is considerable variation in the size of dose employed by different workers with all germs, but with gonococcus vaccines the variation is enormous, running from five millions up to hundreds or even thousands of millions. This variation is probably due partly to the different strains of germs used in making the vaccines, and especially to the different methods of manufacture.

The intervals between doses are usually rather arbitrarily chosen, running from two or three days up to seven to ten days. As a rule in acute conditions the intervals should be shorter and the size of dose smaller than in chronic states. Often the patient by his own feelings can tell when the positive phase, corresponding to the period of improvement, is passing off; the next injection should be given before this stage has entirely disappeared.

4. Attempts to administer vaccines by the mouth or by the rectum have not met with success. The subcutaneous tissue seems to be eminently fitted for the absorption of

vaccines and the resulting stimulation of immunity production.

Vaccine therapy is by no means a panacea. Many attempts have been made to extend serum therapy to all sorts of diseases, but valuable results have been obtained only in the few diseases in which the toxin produced dominates the situation. When this toxin is injected into horses, they become immune to it by virtue of an antidote found in their blood. When, however, the important factor is not the neutralizing of a toxin, but the destruction of invading bacteria, the problem is not so simple. Horses can be immunized to these germs, but the transferring of their immunity to the patient is the difficult part. Under these circumstances the natural recourse is to immunize the patient direct, and this is done by the administration of bacterial vaccines. Serum therapy has been narrowed down to a very few diseases; vaccine therapy will in time probably be applied only in certain conditions, but just what those conditions will be it is too early yet to say.

PRACTICAL PRESCRIPTIONS

AGAINST BRITTLENESS OF THE FINGER-NAILS

Coat the nails at night on going to bed with one of the following pomades:

1. Oil of lentiscus, 15 grammes; sea-salt, 2 grammes; resin, 150 centigrammes; alum, 150 centigrammes; virgin wax, 150 centigrammes.

2. Lanolline, 10 grammes; zinc oxide, 1 gramme; glycerophosphate of lime, 1 gramme; sodium arseniate, 5 centigrammes; nitrate of philocarpine, 10 centigrammes; extract of nux vomica, 50 centigrammes; cochineal, sufficient to color.

Cover the nails with glove-fingers.

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NON-SURGICAL TREATMENT OF SUSPICIOUS TUMORS OF THE BREAST

A recent article in the *Therapeutic Record* obliges us to rise and protest that there is no sure, safe, sane or successful treatment of tumors of the breast that is not surgical.

To encourage any other idea is to permit patients to pass beyond the curative stage to the horrors of hopeless misery.

The writer of the article in question recommends, however, a surgical procedure of the medical type, by injecting three to five drops of a mixture of carbolic acid and iodine into the tumor. The writer also says he got the formula from an old travelling dentist.

Dr. Harvey, in his paper before the Associated Medical Exam. Board, calls attention to the greatest weakness of our present system of registration in medicine.

It seems needless to remark that a system which licenses a man on a written examination to do a surgical operation, is a joke. An applicant for registration in dentistry, however, must demonstrate his ability to fill a tooth.

IS THE TURK OUR SUPERIOR

Dr. Fenton Turck of Chicago says that the "graceful, controlled Turk is the superior of the nervous, lank New Englander." The superiority is the result of his diet. The

Turk lives on rice and meat and the New Englander on baked beans and mince pie.

According to the doctor, our pie and beans are not the best diet for keeping us in nitrogenous equilibrium. The superfluity of protein and the lack of starch in our food makes us dyspeptic. Armor-plate mine pie, which our system cannot assimilate, is slowly reducing us to the level of brutes. Mince pie and baked beans are bringing about the deterioration of the people of New England.

Thus the so-called unspeakable Turk is put above the native of the land of plain living and high thinking.

We shall not quarrel with Dr. Turck for preferring a Turk to a New Englander. Bue when he says that " diet has more to do with the making of great men than anything else," we should like to ask if New England is not far ahead of Turkey in the production of great men.

The aspersions cast by the learned doctor on our mince pie and baked beans we can overlook; but we most respectfully resent being rated as the inferior of the Turk. — *Boston Globe.*

Fathers are paying $3,000 for an automobile for the boy who does not need it, and putting him under a $700 teacher. The time will come when the father will pay the $3,000 for the teacher and the $700 for the automobile.— *President Faunce of Brown University.*

Possibly; but the inference of the unlearned will be that automobiles, a necessary of life, ought to be cheaper, whereas education can be dispensed with, and usually is, especially in colleges. — *New York Sun.*

DOCTOR AND PATIENT

The late Dr. Cruveilhier, of Paris, was a man of unbounded liberality. One day he heard that a poor woman, whose husband was a clerk at the War Office, had been taken seriously ill. He went to see her, attended her for a month, and finally brought her round.

At the end of this period he perceived that the husband wished to ask him for his account and for time to pay it in. He did not like to hurt the young man's feelings, and, noticing an Algerian carpet in the room, worth about fifteen francs, he exclaimed:

"What a lovely piece of carpet you have got there!"

"Ah, doctor," said the husband, "if you think you would like to have it —"

"I should indeed very much like to have it. Look here, we will make a bargain. You owe me two hundred francs for my visits. Your carpet is worth three hundred. Here are a hundred francs, and I 'll take it with me."

And he left, glad to have done the poor people a kindness without wounding their pride.

DO—SAY

(By Frederic Almy, in the *Christian Register*.)

Two brothers once lived down this way,
And one was Do and one was Say.
If streets were dirty, taxes high,
Or schools too crowded, Say would cry,
"Lord, what a town!" but Brother Do
Would set to work to make things new.

And while Do worked, Say still would cry:
"He does it wrong! I know that I
Could do it right." So all the day
Was heard the clack of Brother Say.
But this one fact from none was hid:
Say always talked, Do always did.

WEIR MITCHELL AND THE TWINS

Dr. S. Weir Mitchell, alienist and noted author, frequently stops children on the streets and chats with them.

He is especially fond of children when they get old enough to chatter. Not a long time age he made the acquaintance of twin sisters of 7.

"Good morning, my dear Miss," he said, meeting one of the twins in Rittenhouse Square, "and which of the twins am I addressing this bright day?"

With a smile, the prettiest she had, the surprised lassie looked into the face of the grave physician and said most modestly:

"I 'm the one that 's out walking." — *Philadelphia Times.*

PUBLISHERS' DEPARTMENT

THE MANUFACTURE OF ANTITOXIN.

In the treatment of diphtheria the physician of to-day uses antitoxin as a matter of course. It is his first expedient and his last resort. He believes implicitly in its efficacy. But does he understand and appreciate all that is involved in the production of that antitoxin, — the scientific knowledge, the skill, the caution, the minutiæ of detail? This thought is forced upon the writer through the perusal of a recent publication of Parke, Davis & Co., which deals in part with the subject of antitoxin manufacture. Here is a specimen chapter:

"In the selection of the horses which are to act as the living laboratories for the production of the antitoxin, we apply not commercial or academic knowledge merely, but, what is more to the point, veterinary skill. The animals must be vigorous and healthy. They are carefully examined, their temperature noted for several days, and the presence of glanders excluded by the delicate mallein test. It is the blood-serum of these animals that is to be injected into the patient later on, and no precaution can be regarded as extreme which contributes the slightest positive assurance of its purity.

"Not only must the horses be in good general condition when inoculated; they must be kept so. They are fed, stalled, groomed, and exercised for no other purpose than to maintain to the full their self-protective, antitoxin-producing powers. Thirty miles removed from the noise, smoke and dust of the city is our stock farm, equipped with model stables and supervised by expert veterinarians. Here, at Parkedale, on more than three hundred acres of sunny slopes, at an altitude of six hundred feet above the level of the Great Lakes, live the horses which we employ in serum-production. Amid these favorable surroundings they maintain the physical condition so essential to satisfactory service as serum-producers.

"These are preliminary considerations. Young, healthy, well-kept horses, indispensable as they are, would be of little use in the elaboration of a reliable antitoxin unless the work of injecting them with toxin were conducted accurately, aseptically, systematically, and throughout a period long enough to allow physiological reaction up to the limit of attainable immunization. We have horses enough, so that there is no occasion to be in a hurry with any of them; the exact length of time required for complete reaction is determined in each individual instance by carefully scheduled observations.

"It goes without saying that in the preparation of the toxin and its injection into the horses, as well as in obtaining the blood serum, the most rigid bacteriological technique is maintained. The methods we employ agree substantially with those of Roux, Aronson, and Behring, and are from first to last in charge of experts. The varying susceptibility of different animals, whether guinea-pigs or horses, to the diphtheria poison; the more or less rapid physiological reaction; the variation in strength of the antitoxic serum from different horses; the absolute purity of the finished product — these are all important and delicate questions demanding for their determination a high degree of skill and scientific accuracy of observation. These qualifications, in our judgment, outrank all other considerations in the work of producing a reliable antidiphtheric serum."

The foregoing has reference to but a single step in the process of serum production, and affords but a hint of the safeguards with which Antidiphtheric Serum (P. D. & Co.) is hedged about at every stage of its manufacture — conditions which enable the company to guarantee the purity and potency of its antitoxin.

LONG CONTINUED INVALIDISM.

Many and diverse are the causes of chronic ill health and many are the problems presented to the physician by patients of this character. If we exclude from consideration such organic and diathetic conditions as tuberculosis, carcinoma, specific disease, rheumatic and gouty states, etc, it will be found that neurasthenics and dyspeptics make up the large majority of chronic invalids. The chronic dyspeptic is usually a neurotic individual in whom the digestive symptoms predominate, being secondary to and dependent upon general and nervous devitalization. In a large majority of such cases, so-called nerve foods, neuro-tonics, stimulants and "pick-me-ups" are resorted to, but without substantial benefit. The essential indication is nutritive and blood-glandular re-enforcement. A nutritious, readily digestible diet is the first and most important prescription and then a general reconstructive, restorative and reconstituent tonic, such as Pepto-Mangan (Gude), should be ordered. This palatable, non-irritant and promptly assimilable blood constructor and hemoglobin creator will almost always assist materially in increasing the general force and vitality of the chronic invalid without disturbing digestion or causing constipation.

I do not hesitate to declare myself a friend of Resinol Ointment and Soap. I have used them with splendid results in Herpes, Eczema, Psoriasis and Pruritus. I shall continue to recommend and prescribe them. DR. JOSE P. PIMENTAL.
Acambaro, Mexico.

"pain, due to pressure upon nerve endings by swollen and infiltrated tissues, as manifested in inflammation, is promptly relieved by the application of moist heat.

Whether the inflammation be deep or superficial, moist heat, best exhibited in the form of antiphlogistine, relaxes tension, stimulates capillary and arterial circulation, encourages absorption of exudates, thus removing pressure and the always accompanying pain.

The therapeutic value of moist heat in conditions manifested by inflammation is conceded. The many superior advantages of applying moist heat in the form of antiphlogistine (the original clay dressing) is proven by the confidence accorded it by the medical profession and its ever increasing sales."

"DIGALEN."

is now considered to be the best exponent of digitalis therapy known. Both on the continent of Europe and in this country as well, — in fact, as throughout the world, the superiority of "DIGALEN" over all digitalis derivatives is acknowledged by the foremost clinicians. The following letter from the pen of a very prominent Philadelphia clinician is well worthy the careful perusal of progressive physicians:

Dr. Henry Beates, Jr., of Philadelphia, speaks, decidedly to the point, of the value of "DIGALEN" in myocardial degeneration, Angina Pectoris, Myocardial Fibrosis, Pancreatitis, Tic-Doloreux, and Tuberculosis. The following is quoted from a long statement in which he has been pleased to record, briefly, his observations: "In those cases of local disturbance of the circulatory equilibrium, such as affect, for illustration, the cardio-pulmonary circuit, and in which the bronchial veins and the venous channels of the lungs are the seat of passive hyperemia, 'DIGALEN' exerts an especially beneficial action and seems to possess the power to restore venous tone as does not any other derivative of digitalis. In the bronchorrhea which is symptomatic of this condition, 'DIGALEN,' in my hands, has proven of signal value. By employing 'DIGALEN' in conjunction with such other remedies as may be indicated for the associated symptoms of these lesions, the greatest curative results can be anticipated with certainty. In Myocardial degenerative lesions in which intermittance and irregularity of action is a prominent factor, and especially if associated with conditions of the arterial and venous systems which result in subtraction from the normal function of the arteries in propelling the blood mass, and in a preternaturally distended venous system, we find, notwithstanding restoration of the equilibrium of the circulation, or indeed of a local circuit involving a given artery and its venous area, that the heart continues to intermit and to give evidence of irregular Myocardial function. 'DIGALEN' given under these conditions, if administered in doses of from one-half to one c.c. three to six times daily, will so improve Myocardial metabolism as to restore normal physiologic action or function. For emergency conditions, such as Angina Pectoris, or other forms of impending cardiac failure, the hypodermic use of 'DIGALEN' will avert imminent death."

HOME TREATMENT OF TUBERCULOSIS.

Not every tubercular patient is able to seek the climate best suited to his condition, and it becomes necessary for him to make the best of those curative means at his command. After the physician has outlined to him a well-ordered mode of living, there then arises the question of an agent that will aid in tissue reconstruction and resistance to the disease process. In choosing his therapeutic means of combatting tuberculosis, the physician takes into consideration two features — the value of the remedy chosen for the purpose and the patient's ability to continue it for a sufficient period to derive results. Quite naturally, he thinks of cod liver oil. But generally cod liver oil products quickly prove distressing to the gastric apparatus. A striking exception is the *Cord. Ext. Ol. Morrhuæ Comp. (Hagee)*. Although it is just as potent a tissue builder as the crude product, it possesses added advantages in that it is palatable, and this is a most important feature. It agrees with weak stomachs in a surprising manner, and may be continued indefinitely without giving rise to gastric unrest.

A VALUABLE AND SEASONABLE REMEDY.

To reduce fever, quiet pain, and at the same time administer a laxative and tonic is to accomplish a great deal with a single tablet, and we would especially call attention to the wide use of Laxative Antikamnia & Quinine Tablets in chronic or semi-chronic diseases which begin with a severe "cold." Among the many diseases and affections which call for such a combination, we might mention la grippe, influenza, coryza, coughs and colds, chills and fever, and malaria with its general discomfort and great debility. Attention is particularly called to the therapeutics of this tablet. One of its ingredients acts especially by increasing intestinal secretion, another by increasing the flow of bile, another by stimulating peristaltic action, and still another by its special power to unload the colon. When the temperature of the body is above normal, conditions are especially favorable for germ development. It is a matter of every-day observation that a simple laxative is often sufficient to relieve the most serious complications.

— *Archives of Pediatrics.*

MOIST HEAT.

Thermotherapy in inflammatory conditions seems to prove most effective when applied in the form of moist heat.

The relaxation of pressure by infiltrated and swollen tissues upon nerve endings, as experienced by the relief of pain, specifically proves this.

The advantages of moist heat where indicated are generally acknowledged. The method of its application from professional preferment seems to be in the form of Antiphlogistine. By this method, a high temperature can be maintained in contact with the affected part for hours without exposure to the patient for re-dressing.

The superior advantages of Antiphlogistine over other forms of moist dressings, such as poultices, hot packs, etc., are that it is easily applied, retains its heat for hours, is antiseptic in action, and above all produces satisfactory therapeutic results.

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